

CURRICULUM VITAE

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Professor of Anatomy and Cell Biology

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- **Education**

1987	M.B., B.Ch.	Bachelor in Medicine and Surgery, Ain Shams University, Cairo, Egypt
1992	M.Sc.	Master degree in Cytopathology & Cytogenetics University of London, Imperial College of Science & Technology, London, UK
2000	Ph.D.	Biomedical Sciences University of South Dakota School of Medicine
- **Academic Appointments**

2021-Current	Professor of Anatomy and Cell Biology	Alfaisal University KSA
2020-2021	Professor of Endocrine Neoplasia	MD Anderson Cancer Center
2016-2020	Senior Research Professor of Medicine	Indiana University
2016-Current	Senior Research Professor of Anatomy and Cell Biology	Indiana University
2016-Current	Member IU Simon Cancer Center	Indiana University
2012-Current	Adjunct faculty, Anatomy & Cell Biology	Indiana University
2009-2016	Associate Research Professor of Medicine	Indiana University
2008-2009	Associate Research Professor	University of Virginia
2002-2008	Assistant Research Professor	University of Virginia
2000–2002	Postdoctoral Fellow	University of Texas Health Science Center, San Antonio

- **Other Employment Pertaining to Current Professional Appointments**

1995–2000	Research Assistant	University of South Dakota School of Medicine
1993–1995	Teaching Assistant	Minnesota State University
1989–1991	Orthopedic Surgeon	Cairo, Egypt

- **Honors and Awards**

2004	ASBMR Young Investigator Award,	\$1000
2001	University of Texas Health Science Center, Medicine Research Day,	\$250
2000	New Scientist Report “Need a hand?” August 2000 pp34-37, www.newscientist.com	
2000	Hamamatsu Scholarship,	\$1300
1999–2000	Research Assistantship, University of South Dakota, School of Medicine,	\$13,500
1998–1999	Research Assistantship, University of South Dakota, School of Medicine,	\$13,000
1998–1999	Wesley W. Parke Research Award Endowment,	\$1500
1997–1998	Research Assistantship, University of South Dakota, School of Medicine,	\$13,000
1997–1998	Wesley W. Parke Research Award Endowment,	\$1500
1996–1997	Research Assistantship, University of South Dakota, School of Medicine,	\$12,500
1995–1996	Research Assistantship, University of South Dakota, School of Medicine,	\$12,500

- **Professional Affiliations (including offices held)**

2006–Current	Member, International Society of Bone Morphometry (ISBM)
2000–Current	Member, American Society for Bone & Mineral research (ASBMR)
2013–Current	American Association for Cancer Research (AACR)

- **Committee service:**

- 2010-2011: Indiana University, Curriculum reform team. Serving as a team leader for Professionalism and Self Awareness group.
- 2013-2014: Indiana University, Curriculum reform team. Serving as a team member for human structure group. The aim is to write learning objectives for the human anatomy, histology and embryology.
- 2014-2020: Indiana University School of Medicine, Academic standard.
- 2015-2020: IU LARC advisory Committee

- 2015-2020 IU Library Affairs Committee
- IUPUI Cancer Research Day judge (2016)
- 2021-current: Alfaisal University, College of Medicine Research Committee
- 2021-current: Research coordinator, Department of Anatomy and Genetics, Alfaisal University, College of Medicine

- **Scientific reviewer:**

Nature

Journal of Clinical Investigations (JCI)

Journal of The National Cancer Institute (JNCI)

Cancer Research

Clinical Cancer Research

Clinical Orthopedics and Related Research (CORR)

Breast Cancer Research

Clinical and experimental metastases

International Journal of Biochemistry Research

Endocrine Research

International Journal of Oncology

Gene

Cancer Cell

Oncotarget

Science Translational Medicine

Journal of Bone and Mineral Research (JBMR)

American Journal of Respiratory and Critical Care Medicine

British Journal of Cancer

PLoSOne

BioMed Research International

British Journal of Cancer

Future Oncology

Cell Reports

Cells

- **Grant Reviewer:**

Department of Defense (DOD)

Breast Cancer Research campaign (UK)

Italian Association of Cancer AIRC (Italy)

The National Science Centre (Poland)

- **Areas of Research Interest**

- Role of Bone-Derived TGF- β in Glucose Metabolism in the Setting of Bone Metastases
- Role of TGF- β the muscle function
- Role of Anti-VEGF in bone metastases & normal bone development
- Role of endothelin-1 in normal bone remodeling
- Role of endothelin-1 in the development of osteoblastic bone metastases
- Mechanism of action of TGF- β in osteolytic and osteoblastic bone metastases
- TGF- β and normal bone remodeling
- Testing new anticancer drugs in animal models of bone metastases
- Cancer cachexia

- **Projects**

- Cancer cachexia, Role of ryanodine receptor in cancer associated muscle dysfunction
 - Aim of the project:
 - To determine mechanism of muscle dysfunction in cancer
 - Test the effect of ryanodine stabilizing drug in cancer model with muscle dysfunction
- VEGFR1/cMet and its role in bone metastases
 - Aim of the project:
 - To determine the effect of Anti-VEGFR2/cMet in bone metastases from breast cancer
 - To determine the effect of Anti-VEGFR2/cMet in bone development
 - To dissect the mechanism by which Anti-VEGFR2 exert its effect on bone metastases
- Differential TGF- β signaling in the bone micro-environment: Impact on tumor growth
 - Aim of the project:
 - To determine the effect of TGF- β signaling on osteoblasts and osteoclasts and the impact on tumor growth in bone.
- TGF β in the bone microenvironment: role in metastases
 - Aim of the project include:
 - Determining the mechanism by which TGF- β promotes bone metastases in breast and prostate cancer as well as melanoma
 - Determine the role of hypoxia in TGF- β -mediated bone metastases
- Endothelin-1 in normal and pathological bone remodeling
 - Aims of this project include:
 - Determine the role of ET-1 and endothelin A receptor (ETAR) in normal bone development, growth and remodeling;

- Determine mechanism of ET-1 stimulation of osteoblastic new bone formation;
- Determine the effects of ET-1 on osteoclastic bone resorption;
- Determine the role of ET-1 and ETAR in bone remodeling in sex-steroid deficient states.

- **Teaching Activities**

Classroom, Seminar, or Teaching Laboratory:

Graduate Histology and Cell Biology Alfaisal University, College of Medicine, KSA	2021-current
Medical histology Alfaisal University, College of Medicine, KSA	2021-current
Medical histology Indiana University School of Medicine, USA	2016-2017
Medical histology Indiana University School of Medicine, USA	2015-2016
Medical histology Indiana University School of Medicine, USA	2014-2015
Medical histology Indiana University School of Medicine, USA	2013-2014
Medical histology Indiana University School of Medicine, USA	2012-2013
Medical histology Indiana University School of Medicine, USA	2011-2012
Medical histology Indiana University School of Medicine, USA	2010-2011
Bone Biology-Graduate class Indiana University School of Medicine, USA	2009-2010

Human Gross Anatomy - 1st year medical students University of Virginia School of Medicine, USA	2007-2008
Human Gross Anatomy - 1st year medical students University of Virginia School of Medicine, USA	2006-2007
Human Gross Anatomy - 1st year medical students University of Virginia School of Medicine, USA	2005-2006
Human Gross Anatomy - 1st year medical students University of Virginia School of Medicine, USA	2004-2005
Medical Histology - 1st year medical students University of Virginia School of Medicine, USA	2003-2004
Human Gross Anatomy - 1st year medical students University of Virginia School of Medicine, USA	2003-2004
Human Gross Anatomy - 1st year medical students University of Texas Health Science Center, San Antonio, TX, USA	2000-2001
Human Gross Anatomy – 1st year medical students University of South Dakota School of Medicine, USA	1995-1997
Medical Histology – 1st year medical students University of South Dakota School of Medicine, USA	1995-1996
Human Anatomy - premedical students Minnesota State University, USA	1993-1995

- **Teaching Activities other than classroom or clinical, including teaching of undergraduate (pre-baccalaureate), graduate, and postdoctoral students and continuing education.**

A. Conferences, Grand Rounds, Journal Clubs, etc:

Endocrine Grand Rounds , University of Virginia	2004-2008
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Trainees & Supervised individuals:

B. Students, Postdoctoral & Research Fellows Trained

1. Gabriel Pagnotti. Postdoc., fellow
Histology and Histomorphometry, X-ray analysis, DXA 2016-2021
2. Trupti Trivedi. Postdoc., fellow
Histology and Histomorphometry, X-ray analysis, MicroCT, DXA 2015-2021
3. Antonella Chiechi. Postdoc., fellow
Histology and Histomorphometry, X-ray analysis, MicroCT, DXA 2013-2015
4. Ahmed Harhash, Postdoc., Fellow Internal Medicine, IU
Histology and Histomorphometry, X-ray analysis, MicroCT, DXA 2012-2013
5. David Waning. Postdoc., fellow
Tissue processing, histology and Histomorphometry, X-ray analysis 2011-2012
6. Laura Wright. PhD Student. The University of Arizona.
Tissue processing, histology and Histomorphometry, X-ray analysis 2010 & 2012-
current
7. Steven Rhodes. MD, PhD Student. Indiana University School of Medicine
Tissue processing, histology and Histomorphometry, X-ray analysis 2010-2013
8. Sandra Casimiro PhD. Post Doc. Clinical and Translational Oncology Research Unit
Instituto de Medicina Molecular, Lisbon, Portugees
Tissue processing, histology and Histomorphometry 2009
9. Xin Lu, Ph.D. student Princeton University
Tissue processing, histology and Histomorphometry 2007
10. Ben Tiede, Ph.D. student Princeton University
Tissue processing, histology and Histomorphometry 2007
11. Pierrick Fournier. Ph.D. Postdoc., fellow
X-ray and Histomorphometry analysis 2006-09
12. Lauren Dunn, MD., PhD. student, University of Virginia
Calvarial organ culture and bone assay, histology and Histomorphometry
X-ray analysis 2006-09
13. Vu Duong, M.D., Internal Medicine resident, University of Virginia
histology and histomorphometry 2006-07

14. Richard Ma, M.D., Orthopedic resident, University of Virginia
Animal tumor model, histology and histomorphometry 2006-07
15. Delphine Javelaud, Ph.D., INSERM, France
Animal tumor model of metastases; bone metastases imaging
and image analysis 2006
16. Valerie Siclari, Ph.D. student, University of Virginia
Histology, Calvarial organ culture and bone assay, histology
Histomorphometry and X-ray analysis 2005-09
17. Luke Choi, MD, Orthopedic resident, University of Virginia
Animal tumor model, histology and histomorphometry 2005-06
18. Michelle Doucet, BS., Johns Hopkins University
Animal imaging and histomorphometry 2005
19. Christa Maes, PhD., Katholieke Universiteit Leuven, Belgium
Animal tumor model of metastases; bone metastases imaging,
image analysis, histology and histomorphometry. 2005
20. Dana Gaddy, PhD. Professor, University of Arkansas
Calvarial organ culture and bone assay 2004
21. Christopher Hall, PhD., Post Doc. Fellow. University of Michigan
Calvarial organ culture and bone assay 2004
22. Wende Kozlow, MD., Endocrinology fellow, University of Virginia
Bone mineral density, bone histology and histomorphometry 2003-05
23. Gregory A. Clines, MD, PhD., Endocrinology fellow
Bone mineral density, calvarial organ culture, bone histology
and histomorphometry 2002-04
24. Peter Abadir, MD. Post Doc. Fellow. University of Virginia
Histology imaging, cryosectioning and immunostaining 2002-03
25. Michelle Wallis, PhD, Post Doc. Fellow. University of Virginia
Cryosectioning and use of cryotome 2002-03

C. Research Associates and Assistants Trained

1. Truc Kuo 2021
Histology and Histomorphometry
2. Jade Martinez 2021
Animal experiment and imaging
3. Ning Ma, 2012-2016
Tissue harvesting, processing and embedding; paraffin sectioning and staining
4. Yun She, 2012-current
Tissue harvesting, X-ray and microCT Imaging, mouse handling
5. Sreemala Murthy 2012-current
Tissue harvesting, processing and embedding; plastic sectioning and staining, IHC
6. Desiree Lane 2009-2011
Animal imaging including x-rays and bone mineral density Measurements, drug administration Tissue harvesting.
7. Sutha John 2010-2019
Animal imaging including x-rays and bone mineral density measurements; establishments of tumor models including mammary fat pad tumors, intra-osseous tumors and subcutaneous tumors; drug administration and preparations for metastases models
6. Yu Sheen Wu 2007-2009
Calvarial organ culture and bone assay
7. Xiang Hong Peng 2005-2012
Tissue harvesting, processing and embedding; paraffin sectioning and staining, IHC
8. Holly Walton 2005-09
Animal imaging including x-rays and bone mineral density measurements; establishments of tumor models including mammary fat pad tumors, intra-osseous tumors and

subcutaneous tumors; drug administration and preparations for metastases models

9. C. Ryan McKenna 2003–2009
Animal imaging including x-rays and bone including mammary fat pad tumors, intra-osseous tumors and subcutaneous tumors; drug administration and preparations for metastases models

10. Angela Mason 2003-05
Tissue harvesting, processing and embedding; paraffin sectioning and staining

d. **High School students:**
Mohamed AbdelMalek 2012-2014
Quentin Finkton 2014-2016
Kendall Shepard 2017
Philip Hatcher 2018
Jackson Truitt 2019

• **Financial Resources (Grants and Contracts)**

A. **Completed:**

R50CA243887 (NIH) Mohammad, PI)
Molecular Mechanisms of Chemotherapy-Induced Cognitive Dysfunction
Period: 09/01/19-08/30/2024 Annual: \$151,204

BC171929 (Guise, PI; Mohammad, Co-I)
Department of Defense
Role of Bone-Derived TGF-beta in Glucose Metabolism in the Setting of Breast Cancer Bone Metastases.
Period: 09/01/18-09/30/2021 Annual: \$250,000

R01CA206025 (Guise, PI; Mohammad, Co-I)
NIH (NCI)
Targeting leaky ryanodine receptor (RyR2) to treat and prevent chemotherapy-associated cognitive dysfunction in patients with breast cancer
Period: 05/10/16-04/30/21 Annual: \$506,265

R01 DE019284-06 (NIH) (Alliston, PI; Mohammad Co-I)
The mechanistic control of bone extracellular matrix material properties by TGF β
Period: 08/01/14-07/31/19 Amount: \$1,900,000

BC150678 (Guise; PI, Mohammad; Co-I)
Department of Defense
Effect of Low-Magnitude Mechanical Signals on Breast Cancer Bone Metastases
Period: 02/01/16-01/31/19 Annual \$182,613

RSG-13-301-01-TBG (Sankar; PI, Mohammad; Co-I)
American Cancer Society
CaMKK2 Inhibition in Palliative Care of Advanced Prostate Cancer Patients
Period 07/01/15 – 06/30/17 Annual \$150,000

U01 CA143057 (Mohammad, Co-Investigator; Guise, Bhowmick PIs)
Differential TGF- β signaling in the bone microenvironment: Impact on Tumor Growth.
Period: 02/01/11-01/31/16 Amount: \$1,250,000

R01 AR059221 NIH,NIAMS (Bateman, PI; Mohammad, Co-I)
Radiation induced osteoporosis in women with cancer: Mechanisms and prevention.
Period: 04/01/11-03/31/16 Amount: \$1,250,000

Susan Komen Foundation, Scientific Advisory Council (Guise, PI; Mohammad Co-I)
“Mechanisms of breast cancer associated muscle weakness
Period: 01/01/10-11/02/17 Annual: \$250,000

R01-CA69158 (NIH, NCI) (Mohammad, Co-Investigator; Guise, PI)
“Breast cancer osteolysis: PTHrP regulation by TGF β ”
Period: 04/01/01-03/31/06 Amount: \$1,192,310

R01 DK067333 (NIH, NIDDK/NIAMS) (Mohammad, Co-Investigator; Guise, PI)
“Endothelin-1 in normal and pathological bone remodeling”
Period: 04/01/04-03/31/09 Amount: \$250,000

R01 DK065837 (NIH, NIDDK/NCI) (Mohammad, Co-Investigator; Guise, PI)
“Prostate Cancer Metastasis to Bone: Role of Adrenomedullin”
Period: 06/01/04-05/30/09 Amount: \$250,000

R21-(R21 AR056422-01) (Mohammad, Co-Investigator; Balian G, PI)
“Anabolic effect of Osteogenic peptide”
Period: 07/01/08-06/30/2010 Amount: \$416,000

R01-(CA69158) (Mohammad, Co-Investigator; Guise, PI)
 “TGF beta in the bone microenvironment: Role in tumor metastases”
 Period: 12/01/07-11/30/2012 Amount: \$911,180

Scios Nova, Inc. (Mohammad, Co-Investigator; Guise, P.I.)
 “TGFβ inhibition to treat and prevent breast cancer metastases to bone”
 Period: 06/15/03-05/15/04 Amount: \$52,448

Scios Nova, Inc. (Mohammad, Co-Investigator; Guise, PI)
 “Serine/threonine kinase inhibition to treat and prevent prostate cancer metastases to bone”
 Period: 06/15/03-05/15/04 Amount: \$65,170

Bone Care International (Mohammad, Co-Investigator; Guise, PI)
 “Inhibition of human breast cancer bone metastases by 1,24(OH)2D2 and zoledronic acid”
 Period: 07/01/03-06/30/04 Amount: \$48,343

AstraZeneca (Mohammad, Co-Investigator; Guise, PI)
 “Studies of an antagonist of the ETA receptor in models of osteoblastic bone metastases”
 Period 11/04/03-11/03/04 Amount: \$94,132

Prostate Cancer Foundation (Mohammad, Co-Investigator; Guise, PI)
 “Inhibition of prostate cancer bone metastases with endothelin receptor blockade plus bisphosphonate antiresorptive: preclinical testing and molecular mechanisms”
 Period: 02/01/04-01/31/05 Amount: \$75,000

• **Personnel Currently Supervised**

- Gabriel Pagnotti. Postdoc., fellow, Internal Medicine, IU
- Trupti Trividi. Postdoc., Fellow, Internal Medicine, IU
- Sreemala Murthy, BS, Research associate, Internal Medicine, IU
- Sutha John, MSc, Research associate, Internal Medicine, IU
- Yun She, Research Associate, Internal Medicine, IU
- Sukanya Suresh, Ph.D. Research Associate, Internal Medicine, IU

- **Papers Published or in Press**

- 1) **Mohammad KS**, Bdesha AS, Snell ME, Witherow RO, Coleman DV. Phase contrast microscopic examination of urinary erythrocytes to localize source of bleeding: An overlooked technique. *J Clin Path*, 1993, 46:642- 645.
- 2) **Mohammad KS**, Day FA, Neufeld, DA. Bone growth is induced by nail transplantation in amputated proximal phalanges. *Calcified Tissue Intl*, (1999) 65:408-410.
- 3) Neufeld DA, **Mohammad KS**. Regeneration of bone. In: *Nature Encyclopedia of Life Sciences*. London: Nature Publishing Group. <http://www.els.net/> (May 1999) [doi:10.1038/npg.els.0001107].
- 4) **Mohammad KS**, Neufeld DA. Denervation retards but does not prevent toetip regeneration. *Wound Repair and Regeneration*, (2000) 8(4):277-281.
- 5) Neufeld DA, **Mohammad KS**. Fluorescent bone viewed through toenails of living animals: a method to observe bone regrowth. *Biotechnology and Histochemistry*, Nov 2000, 75(6):259-263.
- 6) Guise TA, Yin JJ, **Mohammad KS**. Role of endothelin-1 (ET-1) in osteoblastic bone metastases. *Cancer*, Feb 2003, 97(S3) 779-784.
- 7) Koss CH, Karaplis AC, Goltzman D, **Mohammad KS**, Guise TA, Pollak MR. Mice lacking calcium-sensing receptor survive in the absence of parathyroid hormone. *J Clin Investig*, April 2003, 111:7(1021-028). Cover.
- 8) Yin JJ, **Mohammad KS**, Kakonen SM, Harris S, Wu-Wong JR, Wessale JL, Padley RJ, Garrett IR, Chirgwin JM, Guise TA. A causal role for endothelin-1 in the pathogenesis of osteoblastic bone metastases. *PNAS*, Sep 16, 2003, 100(19):10954-10959.
- 9) **Mohammad KS**, Guise TA. Mechanisms of Osteoblastic Metastases: Role of Endothelin-1. *Clin Ortho and Related Res*, Oct 2003, 1(415S) Supplement:S67-S74.
- 10) Guise TA, **Mohammad KS**, Käkönen SM, Chirgwin JM. Molecular mechanisms of bone metastases. *American Society of Clinical Oncology Educational Book from 39th Annual Meeting*, 77-80, 2003.
- 11) Maier B, Gluba W, Bernier B, Turner T, **Mohammad K**, Guise T, Sutherland A, Thorner M, Scrabble H. Modulation of mammalian life-span by the short isoform of p53. *Genes and Development* 2004, 18:306-319.
- 12) Chirgwin JM, **Mohammad KS**, Guise TA. Tumor-bone cellular interactions in skeletal metastases. *J Musculoskeletal and Neuronal Interactions* 2004, 4(3):308-318.

- 13)** Neufeld D, Hosman S, Yescas T, **Mohammad KS**, Day F, Said S. Actin fiber patterns detected by alexafluor 488 phalloidin suggest similar migration in regenerating and nonregenerating rodent toes. *Anatom Record*, 2004, 278A(1):450-453.
- 14)** Guise TA, **Mohammad KS**. Endothelins in bone cancer metastases, Chapter (9) pp 197-212 in "The Biology of Skeletal Metastases." Edited by Evan Keller and Leland Chung. 2004 *Kluwer Academic Publishers*.
- 15)** Bendre MS, Margulies AG, Walser B, Akel NS, Bhattacharrya S, Skinner RA, Swain F, Ramani FV, **Mohammad KS**, Wessner LL, Martinez A, Guise TA, Chirgwin JM, Gaddy D, Suva LJ. Tumor-derived interleukin-8 stimulates osteolysis independent of the receptor activator of nuclear factor- κ B ligand pathway. *Cancer Res*, 2005 65: 11001-11009.
- 16)** Clines GA, **Mohammad KS**, Bao Y, Stephens OW, Suva LJ, Shaughnessy Jr JD, Fox JW, Chirgwin JM, Guise TA. Dickkopf Homolog 1 Mediates Endothelin-1-Stimulated New Bone Formation. *Molecular Endocrinol*, 2007, 21(2):486-496.
- 17)** Guise TA, **Mohammad KS**, Clines G, Stebbins EG, Wong DH, Higgins LS, Vessella R, Corey E, Padalecki S, Suva L, Chirgwin JM. Basic mechanisms responsible for osteolytic and osteoblastic bone metastases. *Clin Cancer Res*, 2006;12(6213s -6216s).
- 18)** Javelaud D**, **Mohammad KS****, McKenna CR, Fournier P, Luciani F, Niewolna M, André J, Delmas V, Larue L, Guise TA, Mauviel A. Stable overexpression of Smad7 in human melanoma cells impairs bone metastasis. *Cancer Res*. 2007 Mar, 67(5):2317-24. ** **Contributed equally to this work.**
- 19)** **Mohammad KS**, J. Chirgwin JM, Guise TA. Assessing New Bone Formation in Neonatal Calvarial Organ Culture, Chapter (3) pp 37-50 in "Osteoporosis Methods and Protocols". 2008 *Humana Press*.
- 20)** **Mohammad KS**, Chen C, Balooch G, Stebbins E, McKenna CR, Walton H, Niewolna M, Peng X, Nguyen D, Ionova-Martin SS, Bracey JW, Hogue WR, Wong DH, Ritchie RO, Suva LJ, Derynck R, Guise TA, Alliston T. Pharmacologic inhibition of the TGF- β type I receptor kinase has anabolic and anti-catabolic effects on bone. *Proceedings of the Library of Science ONE PLoS ONE 2009 Volume 4, Issue 4 e5275*.
- 21)** Dunn LK, **Mohammad KS**, Fournier PG, McKenna CR, Davis HW, Niewolna M, Peng XH, Chirgwin JM, Guise TA. Hypoxia and TGF-beta drive breast cancer bone metastases through parallel signaling pathways in tumor cells and the bone microenvironment. *Proceedings of the Library of Science ONE PLoS ONE 2009 Volume 4, Issue 9 e6896*
- 22)** **Mohammad KS**, Fournier PG, Guise TA, Chirgwin JM. Agents Targeting Prostate Cancer Bone Metastasis. *Anticancer Agents Med Chem*. 2009 Dec 1;9(10):1079-88.

- 23)** Alexaki VI, Javelaud D, Van Kempen LCL, **Mohammad KS**, Dennler S, Luciani F, Koek K, Juarez P, Goydos JS, Sibon C, Bertolotto C, Verrecchia F, Saule S, Delmas V, Ballotti R, Larue L, Saiag P, Guise TA, Mauviel A. GLI2, A TGF- β inducible target, promotes Melanoma invasion and metastases. *Journal of the National Cancer Institute JNCI*, 2010 Aug 4;102(15):1148-59
- 24)** **Mohammad KS**, Javelaud D, Fournier PG, Niewolna M, McKenna CR, Peng XH, Duong V, Dunn LK, Mauviel A, Guise TA. TGF-beta-RI kinase inhibitor SD-208 reduces the development and progression of melanoma bone metastases. *Cancer Res*. 2011 Jan 1;71(1):175-84
- 25)** Kim T, Park H, Yue W, Wang JP, Atkins KA, Zhang Z, Rogan EG, Cavalieri EL, **Mohammad KS**, Kim S, Santen RJ, Aiyar SE. Tetra-methoxystilbene modulates ductal growth of the developing murine mammary gland. *Breast Cancer Res Treat*. 2011 Apr;126(3):779-89.
- 26)** Liang H, Ma SY, **Mohammad K**, Guise TA, Balian G, Shen FH. The reaction of bone to tumor growth from human breast cancer cells in a rat spine single metastasis model. *Spine (Phila Pa 1976)*. 2011 Apr 1;36(7):497-504.
- 27)** Javelaud D, Alexaki VI, Dennler S, **Mohammad KS**, Guise TA, Mauviel A. TGF- β /SMAD/GLI2 Signaling Axis in Cancer Progression and Metastasis. *Cancer Res*. 2011 Sep 1;71(17):5606-10.
- 28)** Clines GA, **Mohammad KS**, Grunda JM, Katrina L. Clines KL, Niewolna M, McKenna CR, McKibbin CR, Yanagisawa M, Suva LJ, Chirgwin JM, and Guise TA. Regulation of postnatal trabecular bone formation by the osteoblast endothelin A receptor. *JBMR*, 2011 Oct;26(10):2523-36
- 29)** Wu X, Chen S, He Y, Rhodes SD, **Mohammad KS**, Li X, Yang X, Jiang L, Nalepa G, Snider P, Robling AG, Clapp DW, Conway SJ, Guise TA, Yang FC. The Haploinsufficient Hematopoietic Microenvironment Is Critical to the Pathological Fracture Repair in Murine Models of Neurofibromatosis Type 1. *PLoS One*. 2011;6(9):e24917
- 30)** Cao L, Shao M, Schilder J, Guise T, **Mohammad KS**, Matei D. Tissue transglutaminase links TGF- β , epithelial to mesenchymal transition and a stem cell phenotype in ovarian cancer. *Oncogene*. 2012 May 17;31(20):2521-34
- 31)** Nickerson NK, **Mohammad KS**, Gilmore JL, Crismore E, Bruzzaniti A, Guise TA, Foley J. Decreased autocrine EGFR signaling in metastatic breast cancer cells inhibits tumor growth in bone and mammary fat pad. *PLoS One*. 2012;7(1):e30255.
- 32)** Pollari S, Käkönen RS, **Mohammad KS**, Rissanen JP, Halleen JM, Wärrä A, Nissinen L, Pihlavisto M, Marjamäki A, Perälä M, Guise TA, Kallioniemi O, Käkönen SM. Heparin-like polysaccharides reduce osteolytic bone destruction and tumor growth in a mouse model of breast cancer bone metastasis. *Mol Can Res* 2012 May;10(5):597-604

- 33)** Juárez P, **Mohammad KS**, Yin JJ, Fournier PG, McKenna RC, Davis HW, Peng XH, Niewolna M, Javelaud D, Chirgwin JM, Mauviel A, Guise TA. Halofuginone inhibits the establishment and progression of melanoma bone metastases. *Cancer Res.* 2012 Dec 1;72(23):6247-56
- 34)** He Y, Rhodes SD, Chen S, Wu X, Yuan J, Yang X, Jiang L, Li X, Takahashi N, Xu M, **Mohammad KS**, Guise TA, Yang FC. c-Fms Signaling Mediates Neurofibromatosis Type-1 Osteoclast Gain-In-Functions. *PLoS One.* 2012;7(11):e46900 Epub 2012 Nov 7.
- 35)** Wright LE, Frye JB, Lukefahr AL, Timmermann BN, **Mohammad KS**, Guise TA, Funk JL. Curcuminoids Block TGF- β Signaling in Human Breast Cancer Cells and Limit Osteolysis in a Murine Model of Breast Cancer Bone Metastasis. *J Nat Prod.* 2013 Mar 22;76(3):316-21
- 36)** Hoggatt J, **Mohammad KS**, Singh P, Hoggatt AF, Chitteti BR, Speth JM, Hu P, Poteat BA, Stilger KN, Ferraro F, Silberstein L, Wong FK, Farag SS, Czader M, Milne GL, Breyer RM, Serezani CH, Scadden DT, Guise T, Srouf EF, and Pelus LM. Differential Stem and Progenitor Cell Trafficking by Prostaglandin E2. *Nature.* 2013 Mar 21;495(7441):365-9. doi: 10.1038/nature11929.
- 37)** Casimiro S, **Mohammad KS**, Pires R, Tato-Costa J, Alho I, Teixeira R, Carvalho A, Ribeiro S, Lipton A, Guise TA, Costa L. RANKL/RANK/MMP-1 Molecular Triad Contributes to the Metastatic Phenotype of Breast and Prostate Cancer Cells In Vitro. *PLoS One.* 2013 May 16;8(5):e63153
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- **Media Comments:**

Beyond the Abstract - Agents targeting prostate cancer bone metastasis, by **Khalid S. Mohammad, MD, PhD**, and John M. Chirgwin, PhD. *Uro Today* Tuesday, 08 December 2009. www.urotoday.com.

Khalid S. Mohammad. Image is displayed on the **NCI website** for the **NCI close up project**. <https://visualsonline.cancer.gov/browseaction.cfm?topicid=162>

- **Abstracts**

***Abstracts Presented Orally**

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